Spectroscopy Operations for X-ray Spectroscopy on X9B	X9B

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The purpose of this project is to provide support to spectroscopy users and to insure the efficient usage of beam time. This includes personnel support in the form of technical assistance from on site staff on a daily basis, and consultation and/or collaboration with the Director (Dr. Chance) on a weekly basis. Improvements to the sagittally focusing monochromator (described below) have led to direct improvements in the quality of XAS data recorded at X9B. Also, it has led to XAS users utilizing the focusing crystals (as opposed to the flat crystal set) 66% of the time currently. The use of a focused beam results in a smaller beam size at the specimen. Vacuum beam transport tubes have been used resulting in more of the X-ray beam being delivered to the specimen and less of the beam scattering elastically off the sample holder: thus the ratio of the fluorescence X-ray signal to elastically scattered background has been improved. Because of the improved data quality and the transparency of usage of the dynamically focused beam most of the XAS users now collect data in this mode. Additionally, the smaller beam sizes at the specimen means smaller quantities of precious materials are required.